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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/945,340	08/31/2001	Agathagelos Kyrilidis	96072CIP2	1425

7590

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EXAMINER

PHASGE, ARUN S

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 08/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/945,340

Applicant(s)

KYRLIDIS ET AL.

Examiner

Arun S. Phasge

Art Unit

1753

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 5, 11-76, 78 and 79 is/are pending in the application.
- 4a) Of the above claim(s) 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5, 16-76, 78 and 79 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5, 16, 19, 21, 28, 31, 33, 39, 42, 44, 51 and 53 are rejected under 35 U.S.C. 102(b) as being anticipated by Stalling et al. (Stalling), U.S. Patent 5,308,481.

Stalling discloses the claimed separation device, such as the claimed chromatography device wherein the stationary phase comprises carbonaceous material, such as fullerenes, having attached at least one organic group, such as the claimed aromatic-( $C_nH_{n+1}$ ) group, where n is within the claimed range (see abstract and col. 4, lines 58-66 and figure 10b). The reference further discloses the glycol as the organic chemical attached to the carbonaceous material (see col. 9, lines 10-21). The reference further discloses the carbonaceous material can have more than one organic molecule attached (see col. 4, lines 58-62).

Accordingly, since the Stalling patent discloses each and every limitation, the claims are anticipated.

*Claim Rejections - 35 USC § 103*

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 17, 29 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling as applied to claims above, and further in view of EPA 300,448 to (Kusano).

The Stalling patent does not disclose that the organic molecule that is attached to the carbonaceous material is an amino type molecule as claimed. The Kusano reference is cited to show the use of the claimed amino type molecule used as a separation medium (see Abstract).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Stalling patent with the teachings of the Kusano reference, because the Kusano reference teaches that the use of amino type molecules allows the use of said molecules as separation medium in chromatography.

Claims 18, 20, 22-27, 30, 32, 34-38, 41, 43, 45-50, 52, 54-76, 78-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stalling as applied to claims above, and further in view of Boes applied as of record.

The Stalling patent does not disclose the other types of organic molecules that can be attached to the carbonaceous material as claimed.

The Boes patent is cited to show the use of a variety of organic groups that are attached to the carbonaceous material, which includes the claimed organic groups (see col. 4, line 25 to col. 5, line 22).

Consequently, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the disclosure of the Stalling patent with the teachings of the Boes patent, because the Boes patent teaches that the use of the other types of organic molecules that can be attached to carbonaceous material.

#### ***Response to Arguments***

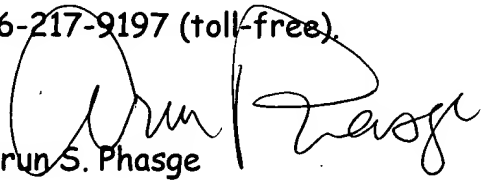
Applicant's arguments with respect to claims 5, 16-76, 78-79 has been considered but is moot in view of the new ground(s) of rejection.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun S. Phasge whose telephone number is (571) 272-1345. The examiner can normally be reached on MONDAY-THURSDAY, 7:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Arun S. Phasge  
Primary Examiner  
Art Unit 1753